

IN THE CLAIMS

1. (currently amended) A crystallizer for casting low melting point metals and ~~their~~ alloys alloy, comprising:

a base (1),

an end mould (2),

mould seat seats (6, 7) on the end mould (2), and

film mould moulds (8, 9), ~~characterized in that~~ wherein

a plurality of position-limiting parts (16) are arranged in ~~on~~ the inner side of said mould seats ~~in the radiation shape, a slot (17-1) being formed between adjacent position-limiting parts,~~

the shape of the inner side of ~~these~~ the position-limiting parts corresponds with that of ~~the~~ an outer periphery of ~~the~~ mould walls (8-1, 9-1) of the film moulds (8, 9),

~~the~~ an inner periphery of the mould walls (8-1, 9-1) corresponds with the outer periphery of ~~the~~ a casting, ~~between the adjacent position-limiting parts is a vertical gap which forms a slot (17-1),~~

the film moulds (8, 9) are fixed on the mould seats ~~by the locating part~~ so that the slot (17-1) is closed to become ~~the~~ a cycle passage of the cooling medium, ~~i.e. through a medium channel (17);~~

on the upper end of the medium channel (17) there is a medium-supplying port (5) and the lower end of the medium channel (17) is communicated with ~~the~~ a drain pipe (12).

2. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein a the plurality of position-limiting parts (16) are ~~fixed on~~ cut into the inner side of the mould seats (6, 7) or formed within ~~on~~ the inner side of the mould seats (6, 7) as an integrated body
3. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein the a plurality of position-limiting parts (16) are arranged ~~on~~ in the inner side of the mould seats (6, 7) vertically.
4. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein the inner side of a the plurality of position-limiting parts (16) is cut by ~~[[an]]~~ a cutter to form a fringe (21), ~~the outer periphery of the cutter corresponds~~ corresponding with that of the

mould ~~wall~~ walls (8-1, 9-1) of the film ~~mould~~ moulds.

5. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein the sectional shape of ~~[[the]]~~ a fringe on the inner side of the position-limiting part (16) is a triangle which is truncated by ~~[[the]]~~ a cutter, and the length of a truncate arc of said position-limiting part is 0.5 ~ 6mm, the arc of the two adjacent fringes truncated by the cutter is 2 ~ 50mm long.
6. (deleted)
7. (currently amended) The crystallizer according to claim 4, ~~characterized in that~~ wherein said cutter is a cylinder (22), whose surface corresponds with the outer periphery of the mould ~~wall~~ walls (8-1, 9-1) of the film ~~mould~~ moulds.
8. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein said mould ~~[[seat]]~~ seats (6, 7) ~~[[has]]~~ have at least two mould closing fits (53, 55, 57, 59) along ~~[[the]]~~ a mould joint, said film mould (8, 9) consists of the mould ~~wall~~ walls (8-1, 9-1) and a mould ear (8-2, 8-3, 9-2, 9-3), the mould ~~wall~~ walls (8-1, 9-1) extend extends a width along the mould joint to form the mould ear (8-2, 8-3, 9-2, 9-3), which is tightly pressed between the mould closing fits of the mould ~~[[seat]]~~ seats.
9. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein the film mould has a locating part which consists of a plurality of inserting slots (23) disposed on the mould closing fits and pins (8-4, 9-4) disposed on ~~[[the]]~~ mould ears ~~[[ear]]~~.
10. (**currently amended**) The crystallizer according to claim 1, ~~characterized in that~~ wherein the ratio of the thickness of the film ~~mould~~ moulds to the diameter of ~~[[the]]~~ a cylindrical casting is between 0.0015~0.006.
11. (**currently amended**) The crystallizer according to claim 1, ~~characterized in that~~ wherein the film ~~mould is~~ moulds are made of ~~[[the]]~~ martensite heat resistant steel.
12. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein on the end mould (2) is arranged an upper part (26) which corresponds with the inner periphery of mould ~~wall~~ walls (8-1, 9-1), the end mould (2) is fixed on the mould base (1), the mould seats (6, 7) ~~slides~~ slide on the end mould (2); ~~[[the]]~~ a cylinder (22) cuts the inner side of mould seats (6, 7) to form an inner bottom (25) of the mould ~~seat~~ seats, the bottom of the film ~~mould~~ moulds (8, 9) is clamped between the upper part (26) and the inner bottom

(25) of the mould seats (6,7) seat (25).

13. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein the drain pipe (12) is communicated to a medium-discharging port (11) through a soft pipe (14); the medium-discharging port (11) is fixed in a liquid level controller (10), and the liquid level controller (10) stops at ~~[[the]]~~ a determined height or ascends and descends at the determined speed.
14. (currently amended) The crystallizer according to claim 1, ~~characterized in that~~ wherein at the top of said crystallizer ~~[[are]]~~ is arranged a top core (71), and an operating mechanism (74) for placing and de-moulding the top core (71), at the top of said crystallizer is arranged a heater (73) for heating the top core.
15. (deleted)
16. (**currently amended**) The crystallizer according to claim 14, ~~characterized in that~~ wherein said top core is made of silicon nitride material.
17. (**currently amended**) The crystallizer according to claim 1, ~~characterized in that it further comprises further comprising:~~ metal moulds (52, 62), ~~which are imbedded in the space formed after cutting away a part (49, 50) of the mould seats (6, 7) along~~ ~~[[the]]~~ a mould joint, wherein the metal moulds (52, 62) have at least two mould closing fits (54, 56, 58, 60) arranged along the mould joint, the shape of the inner side of metal moulds (52, 62) and the inner periphery of mould walls (8-1, 9-1) are combined to form the peripheral shape of ~~[[the]]~~ a tubular casting.

Claims 18-22. (canceled)